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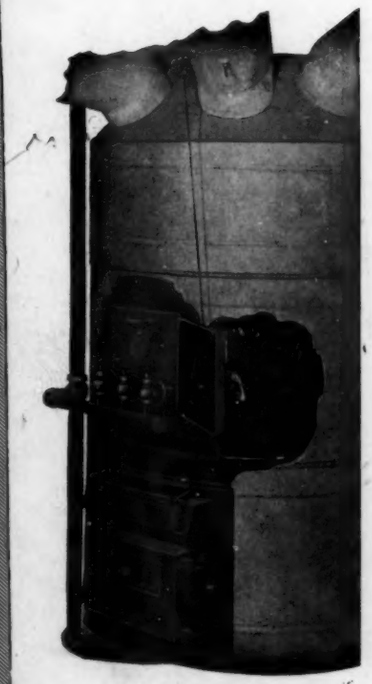

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The Franklin Quick Removable Gas Burner System, as illustrated, is an auxiliary heating appliance for use on coal furnaces and boilers. It can be easily attached in a few minutes' time. Equipped with a swinging stop cock which makes a leak-proof installation when the burners are in use, and a complete shut-off when the burners are swung out of the way. Patented Venturi Tubes are used in the burners. Economy and perfect combustion are possible under any and all conditions without air mixer regulation. Varying gas pressures will not affect the burner, cause it to backfire in the mixer, or go out under low pressure.

Over 125,000
FRANKLIN
QUICK REMOVABLE
GAS BURNERS

Have brought a handsome Profit, Good-will and Prestige to those handling them and Comfort, Satisfaction and Convenience to users.

BECAUSE

They are so simple and inexpensive to install.

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The change from coal to gas, or gas to coal, can be made in a minute without the use of tools.

Write for full information and our special demonstration display today, tell your customers about the Franklin and the sales are easy.

Franklin Gas Burner Mfg. Co.

Vine and Mitchell Sts. **Cincinnati, Ohio**

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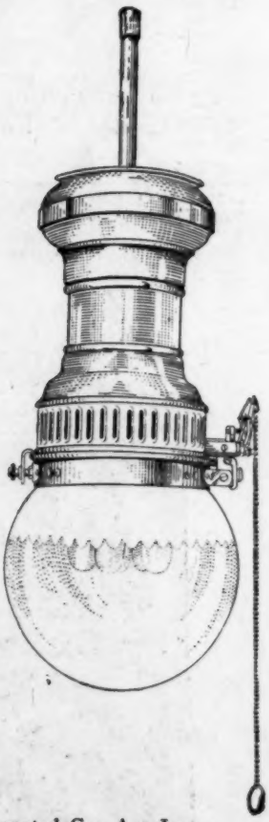
Standard Mantle Lamps

Plain and Fancy Single Candle Lights



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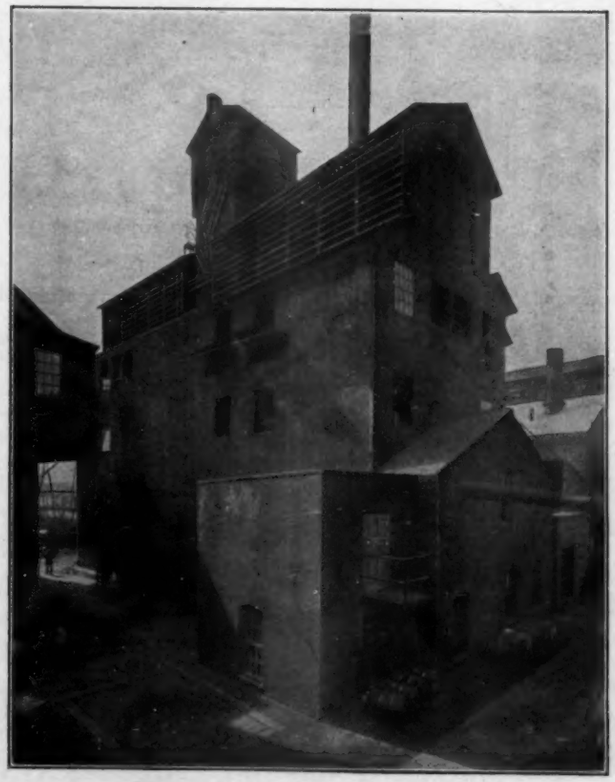
NEW YORK CITY

GLOVER-WEST
Vertical Retorts

1911 FITCHBURG MASS.



1925 AFTER 14 YRS.

Continuous Satisfactory Service

WEST GAS IMPROVEMENT CO.
of America, Inc.
441 Lexington Ave. New York.

American Gas Journal

SIXTY-SEVENTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

S. G. KRAKE, Pres. & Treas. C. S. MYERS, Vice-Pres. A. M. GLEASON, Sec'y.

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"MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS"

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AMERICAN
GAS JOURNAL

Vol. 124. No. 6 NEW YORK, FEBRUARY 6, 1926 Whole No. 3562

The Baltimore Plan of Industrial Education

As developed and applied by the Consolidated Gas, Electric Light & Power Company of Baltimore

E. B. Luce

Educational Director

IN the November 28, 1925, issue of the American Gas Journal, the principles and provisions of the Baltimore Plan of Industrial Education were set forth. This article will explain the method of administration.

The Educational Department of the Gas & Electric Company of Baltimore was established on May 12, 1924. The letter by the president of the company announcing its establishment was as follows:

"May 12, 1924.

"To Department Heads:

"It has been decided to establish a new and separate department of the company, to be known as the Educational Department, and to be administered by Mr. E. B. Luce as educational director, reporting directly to the president and vice-president.

"The initial plan of this department's activities will cover the direction and co-ordination of all of the educational and training work of the company and will include:

"(1) Group meeting work.
"(2) Existing special classes and courses.
"(3) Outside educational courses.
"(4) The preparation of new manuals and the development of existing material covering procedures on standard practices for the use and training of new and old employees.
"(5) Supervision of methods for following up and training in new employees.
"(6) Work of the company library.
"(7) New educational and training work along departmental and vocational lines.

"The work of the Educational Department will be carried on in close co-operation with the Employment and Personnel Department and all department heads.

"Department heads are requested to give individual thought to the educational needs and possibilities of their departments and to communicate their ideas and advice to the educational director.

"Experience and the dealing with things themselves are our best means of education, which, after all, is largely the passing along of human experience and knowledge.

"For the advice and assistance of the educational director, there has been formed an Educational and Training Committee—Mr. Douglass Burnett, chairman, Mr. W. H. Vickers and Mr. E. B. Luce.

"The fundamental purpose of company educational work is to promote efficiency and co-operation to bring about a better understanding on the part of employees of the company's policies and requirements and the inter-relation and scope of its operations, to develop the abilities of employees to greater usefulness to the company and to aid individuals to fit themselves for advancement in the organization.

"We ask your earnest co-operation and active interest in this work.

(Signed) "HERBERT A. WAGNER, President."

Not an Experimental Plan

The plan is not experimental, but is the logical outgrowth of a long experience in tried methods, developed over a period of years under the direction of the person designated as chairman of the Educational Committee, and now brought to a fruition through definite organization as a regular part of the company's activities.

The method of co-operating with the Employment and Personnel Department mentioned in the president's letter is through weekly meetings of the Educational and Training Committee, of which the educational director and the manager of the Employ-

ment and Personnel Department are members; also through a co-operative arrangement for the transfer of records of individual men from the Educational Department to the Employment and Personnel Department, where most of the record keeping of individual employees is provided for.

Administrative Forms

The forms used in administering the Baltimore Plan of Industrial Education are:

(a) An Entry Ticket printed in triplicate—white, pink and blue copies.

Branch Chairmen of Group Educational Forces Planning 1925-26 Program

(b) An Educational Contract in four copies—white, blue, pink and yellow.

(c) Progress Report.

(d) Refund Ticket in four copies—white, blue, pink and yellow.

(e) Educational Certificate.

(f) Inspirational Statement by educational director.

(g) Training Guide and Record Sheet for new employees.

The following are reproductions of the above-mentioned forms, showing more in detail how they are used:

The Back of the Entry Ticket

To explain its purpose and use, the following is printed on the back of the Entry Ticket:

The Gas and Electric Company makes three offers to its employees in relation to outside educational courses.

(a) Tuition Advances and Refunds for Night Courses.

The company will make advance payment of tuition charges for any employee after an employment period of at least six months, who enrolls in a suitable course or courses approved in advance by the employee's superintendent and the educational director of the company, up to a maximum tuition charge of fifty dollars ($50.00). Any tuition charge in excess of $50 will be paid by the employee personally. Whatever amount is advanced for the employee by the company for tuition is returned to the company by the employee through authorized payroll deductions. If the employee completes such course or courses with a rating of at least 80 per cent or its equivalent, the company will refund to the employee the cost of tuition up to a maximum of $25 per course per school year.

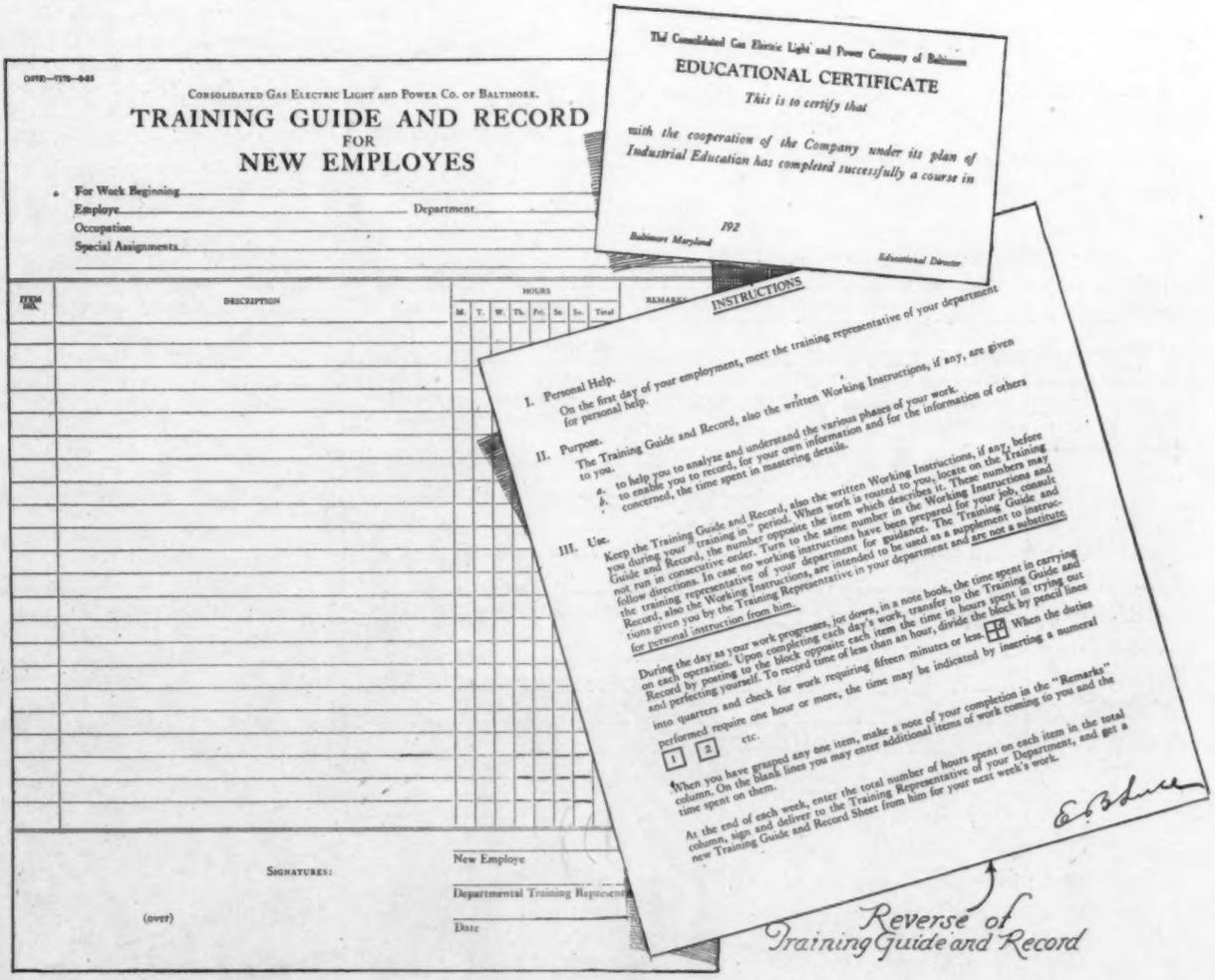
(b) Juvenile Cash Prize Offer for Night Courses.

To all juvenile employees of the company enrolling in and completing a free night course in elementary or high school subjects with a standing of at least 80 per cent or its equivalent will be given a cash prize of $10.

(c) Cash Prize to Adults for Elementary Education.

To all adult employees of the company, needing elementary education, who enroll in free night courses or otherwise arrange with the Educational Department for suitable instruction in elementary subjects, will be given a cash prize of ten dollars ($10.00), upon submitting evidence of achievement acceptable to the company's educational director.

Miss Madeline Sweeney, Librarian


Consolidated Gas Electric Light and Power Co. of Baltimore.
TRAINING GUIDE AND RECORD
FOR
NEW EMPLOYES
For Work Beginning
Employe
Department
Occupation
Special Assignments
ITEM NO.
DESCRIPTION
HOURS
M. T. W. Th. Fri. Sa. Su. Total
REMARKS
SIGNATURES:
New Employe
Departmental Training Representative
Date
(over)
The Consolidated Gas Electric Light and Power Company of Baltimore
EDUCATIONAL CERTIFICATE
This is to certify that
with the cooperation of the Company under its plan of Industrial Education has completed successfully a course in
Baltimore Maryland
192
Educational Director
INSTRUCTIONS
I. Personal Help.
On the first day of your employment, meet the training representative of your department for personal help.
II. Purpose.
The Training Guide and Record, also the written Working Instructions, if any, are given to you.
a. to help you to analyze and understand the various phases of your work.
b. to enable you to record, for your own information and for the information of others concerned, the time spent in mastering details.
III. Use.
Keep the Training Guide and Record, also the written Working Instructions, if any, before you during your "training in" period. When work is routed to you, locate on the Training Guide and Record, the number opposite the item which describes it. These numbers may not run in consecutive order. Turn to the same number in the Working Instructions and follow directions. In case no working instructions have been prepared for your job, consult the training representative of your department for guidance. The Training Guide and Record, also the Working Instructions, are intended to be used as a supplement to instructions given you by the Training Representative in your department and are not a substitute for personal instruction from him.
During the day as your work progresses, jot down, in a note book, the time spent in carrying on each operation. Upon completing each day's work, transfer to the Training Guide and Record by posting to the block opposite each item the hours spent in trying out and perfecting yourself. To record time of less than an hour, divide the block by pencil lines into quarters and check for work requiring fifteen minutes or less. When the duties performed require one hour or more, the time may be indicated by inserting a numeral 1 2 etc.
When you have grasped any one item, make a note of your completion in the "Remarks" column. On the blank lines you may enter additional items of work coming to you and the time spent on them.
At the end of each week, enter the total number of hours spent on each item in the total column, sign and deliver to the Training Representative of your Department, and get a new Training Guide and Record Sheet from him for your next week's work.
E. B. Luce
Reverse of Training Guide and Record

Conditions on Educational Contract

The conditions of the contract are printed on the reverse side of the white and blue copies and on the back of the pink copy are spaces for the recording of weekly deductions by the Pay Roll Department.

The statement on the reverse side referred to reads as follows:

"In consideration of the Consolidated Gas, Electric Light and Power Company of Baltimore advancing the sum stated hereon, as tuition for the said course, I hereby direct the said company to deduct the amount of the payroll deduction stated hereon from my salary until the amount advanced is repaid in full.

"In the event of my leaving the employ of the said company, I agree that any moneys due me for salary, or otherwise, may be used by the company in liquidating any balance of the tuition money, and if there is not sufficient to adjust the account, I agree promptly to pay the difference to the company."

The Reverse of the Progress Report

On the reverse side of the Progress Report are printed the following notes:

"Note to Employee:

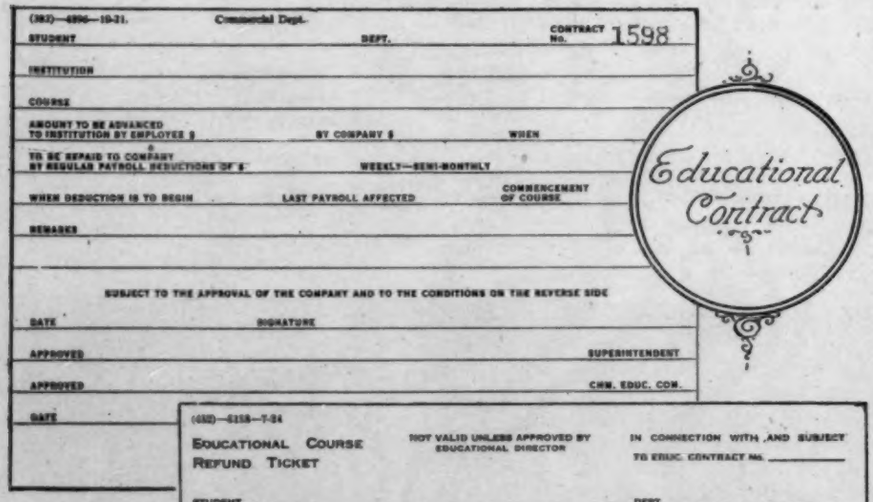
"Please take this slip to your instructor personally and request him to check and sign; then return it to the Educational Department, 660 Lexington building.

"Note to the Instructor:

"Your co-operation in checking and signing, as requested, will be appreciated. Your personal judgment only, without reference to official records, is desired at this time.

"At the completion of this course the final rating will be needed. Reports of progress, as may be customary in your institution, will be a helpful co-operation in the Baltimore Plan of Industrial Education as developed and applied by the Gas and Electric Company.

"E. B. LUCE, Educational Director."


(382)—4896—10-21. Commercial Dept.

STUDENT DEPT. CONTRACT No. 1598

INSTITUTION

COURSE

AMOUNT TO BE ADVANCED TO INSTITUTION BY EMPLOYEE $ BY COMPANY $ WHEN

TO BE REPAID TO COMPANY BY REGULAR PAYROLL DEDUCTIONS OF $ WEEKLY—SEMI-MONTHLY

WHEN DEDUCTION IS TO BEGIN LAST PAYROLL AFFECTED COMMENCEMENT OF COURSE

REMARKS

SUBJECT TO THE APPROVAL OF THE COMPANY AND TO THE CONDITIONS ON THE REVERSE SIDE

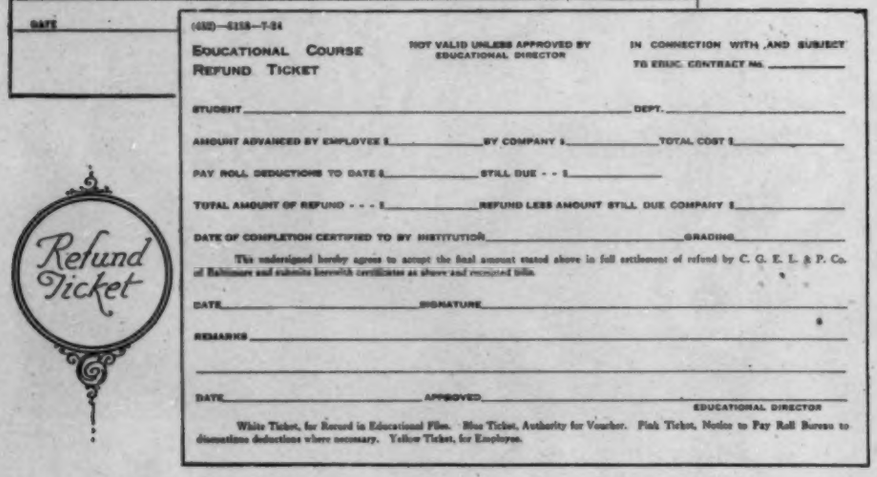
DATE SIGNATURE

APPROVED SUPERINTENDENT

APPROVED CHM. EDUC. COM.

DATE

Educational Contract


(432)—6158—7-24

EDUCATIONAL COURSE REFUND TICKET

NOT VALID UNLESS APPROVED BY EDUCATIONAL DIRECTOR

IN CONNECTION WITH AND SUBJECT TO EDUC. CONTRACT No.

STUDENT DEPT.

AMOUNT ADVANCED BY EMPLOYEE $ BY COMPANY $ TOTAL COST $

PAY ROLL DEDUCTIONS TO DATE $ STILL DUE - - $

TOTAL AMOUNT OF REFUND - - - $ REFUND LESS AMOUNT STILL DUE COMPANY $

DATE OF COMPLETION CERTIFIED TO BY INSTITUTION GRADING

The undersigned hereby agrees to accept the final amount stated above in full settlement of refund by C. G. E. L. & P. Co. of Baltimore and submits herewith certificates as above and receipted bills.

DATE SIGNATURE

REMARKS

DATE APPROVED EDUCATIONAL DIRECTOR

White Ticket, for Record in Educational Files. Blue Ticket, Authority for Voucher. Pink Ticket, Notice to Pay Roll Bureau to discontinue deductions where necessary. Yellow Ticket, for Employee.

Refund Ticket

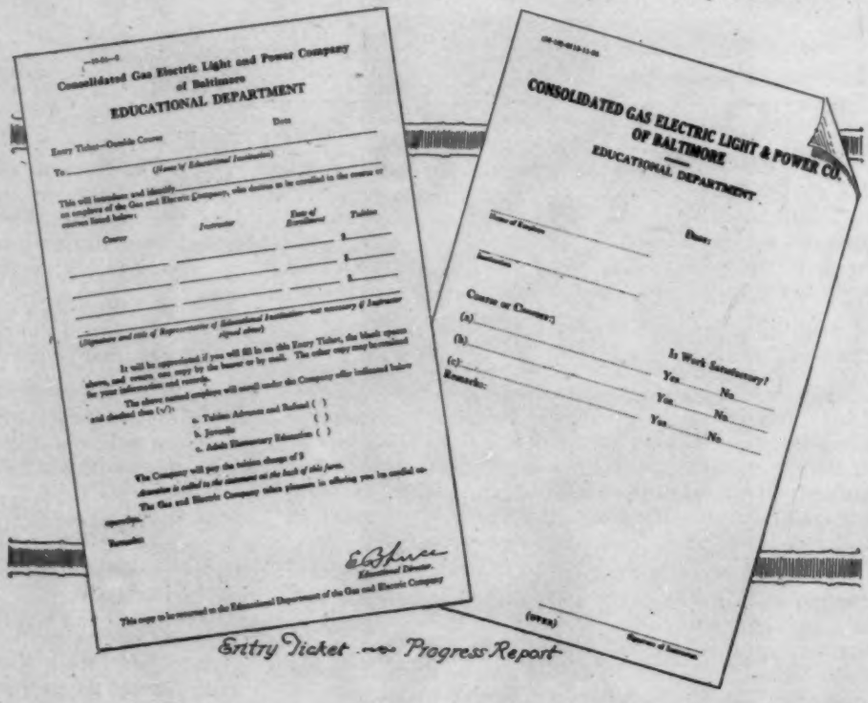
Refund Ticket

Upon the successful completion of a course or courses with an average of at least 80 per cent, or its equivalent, refund of the cost of the course up to $25 per course per year is made on "Refund Tickets" made in quadruplicate. These tickets are made when the Educational Department receives from the school the report of passing. The employees concerned are held responsible for securing the necessary certifications.

Educational Certificate

The rules with respect to educational certificates are as follows:

"Educational Certificates will be issued to employees who complete courses which are offered to them under the company's plan of industrial education.


Consolidated Gas Electric Light and Power Company of Baltimore

EDUCATIONAL DEPARTMENT

Entry Ticket and Progress Report

CONSOLIDATED GAS ELECTRIC LIGHT & POWER CO. OF BALTIMORE

EDUCATIONAL DEPARTMENT

"The first certificate issued to any employee will be inserted in a leatherette pocket size certificate holder bearing the inscription, 'Good Public Service,' in letters of gold.

"Subsequent certificates will be issued as courses are completed. All such should be placed by the recipient in the certificate holder, with the first certificate received by him, thus making a cumulative record of his educational achievements while an employee of the company.

"These certificates will be evidence of educational growth and development and will place in the keeping of the employee himself the company's recognition of his educational work.

"Education, to be most effective, must be continuous. Advancement in position and income is dependent upon improved efficiency.

"Do not suspend or relax your educational effort. Be forward looking, forward moving and ready for advancement when the opportunity is presented, which may come to you but once."

The History and Development of the Gas Meter *

A few pertinent remarks on meter progress

W. Griffen Gribbel

John J. Griffen & Co., Philadelphia, Pa.

WHEN the one light meter was first urged on gas companies, it was an object of suspicion because it might be the means of letting the gas all out of the works. The idea up to that time had been to prevent the escape of the company's gas by too much consumer use. Subsequently, the two light, three light, five light, ten light and larger sizes were successively developed, each designed to pass not more than enough gas to feed the particular number of open flame burners at six cubic feet per hour.

It was not many years before the business of making and selling gas began to bulge and new policies displaced the old ideas. Since that time the industry has been so constantly hurried by outside business conditions and demands not subject to common approval and regulatory authority that one of its

Meter manufacturers do not get back as many of the old meters nowadays, and while there may be several reasons for this, the fact remains. In my chief problems is the rapid obsolescence of its equipment in its effort to function economically with the tools in hand and a license to live.

W. Griffen Gribbel

Condition of Meter Equipment

The situation is well presented in the condition of meter equipment. Manufacturers used to get back for repairs meters that had been in service anywhere up to 50 years or even over, in isolated cases. These meters had been adequate to the task imposed during that time in which men's minds had followed the common custom of selling at so much per volume. This was the fashion and anything beyond this was not thought of.

judgment, gas companies have been forced to scrap these old meters because they were not up to the task imposed on them by a customer demand that is now cultivated by the commercial department whose efforts follow the current of outside business conditions, reflecting the pulse of the community. In indicating community philosophy, a good commercial department is as sensitive as a hound's nose.

Any general forward surge means so much more slack to be taken up by the utilities which appear to be relatively inert because of regulatory impediment. I believe any careful review of our industry for 50 years would show that we must expect to outgrow our clothes faster in the future than we did in the comfortable days of top hats, gold-headed canes and good five-cent cigars.

Improvement in Meters

Very definite appreciation of these conditions is responsible for the comments occasionally heard that meter manufacturers have not diligently sought to improve the art. Such criticism is invaluable to all concerned as voicing an awakening conscience in the matter of tempered co-ordination in moving ahead and it must be a great satisfaction to see these comments lead to the disclosure that laboratories have been searching for improvements in apparatus and basic principles of gas measurement now for several years past. I know of one employing upwards of seven men constantly for the last six years, under a present annual budget of $50,000.

The most conspicuous emphasis has recently been laid upon greater meter capacity per meter dimension. Cubic economy in dwelling is being studied more attentively by architects as building costs increase and as domestic utilization of gas becomes just about household necessity, space heaters and cumbrous coal systems finally yielding to some form of central unit gas house heating, the capacity of the meter must increase far more rapidly than its space dimensions. This development in a measure involves the problem of meter lubrication which has long defied solution. In the days of universal low pressure distribution of coal gas, partially augmented by carburetted water gas, and when there was no general practice of by-product salvage, the meter encountered harmless oily deposits which seemed to protect the metal plates from corrosion, while functioning as a lubricant.

Effect of High Pressure

We are now headed towards universal high pressure distribution of gases, which have been salvaged to the expedient limit and in which no homeless hydrocarbons exist. Meter lubrication may come in time and its advent will be hastened by gas production settling down to a wide uniformity.

I doubt if it will appear as long as lubricants suffer molecular commotion when exposed to the varying characteristics of differing types of gases.

The long established belief in measurement by volume displacement seems to be a safe starting

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*Read at the mid-annual meeting of the New Jersey Gas Association.

point from which to explore the relatively unfamiliar possibilities of the laws of physics. Progress is being made, but since progress and patience are poor bedfellows, either must be retraced or over-enthusiasm must seem to encounter stupid and unsympathetic cold water.

Slow Growth Enduring

In all the natural world and in all human activities the slower growth is generally conceded to be the more enduring and the more valuable and in casting about for an answer to the accusing statement so often levelled at meter manufacturers that the meter has changed so little in 75 years or more of its life, we are prone to take refuge under this general law. It is not altogether true as a statement, nor is it perhaps wise to forget that nothing ventured, nothing gained, but it is true that enthusiastic haste is seldom advisable, even in a physical emergency.

The demands of the industry will always be the active force in developing and even in changing the meter. The demands must accumulate appetite until they are prepared to definitely absorb certainly half of the cost involved. How often we hear an expressed wish for a meter of certain particular function, coupled with the dread of its cost, all in the same breath.

To attempt any detailed chronology of the evolution of the gas meter would resemble a tour of Mrs. Joly's Wax Works and would lead through such a cave of horrors that you would soon tire of it, join the fundamentalists and refuse to consider anything but the shining example of non-lubricated accuracy we all have in mind.

Meter Development Intricate

Every conceivable twist and turn of mechanical ingenuity has been resorted to in the continuous effort to discover some new and better arrangement or design of the agent in the basic principle of measurement by volume displacement.

The meter has even been turned upside down and the valves put in the cellar, presumably to lessen friction; so that if we have now fallen into a mental lockstep it is no more voluntary than in the institutions where the word originated. We have so frequently been reminded that the meter is today as it was in the beginning that we should be forgiven if our unspoken thoughts run on to the end of the familiar phrase.

It is a significant fact that nine-tenths of the changes have been made with an eye to increase longevity and accuracy in measurement than in an effort to cut down costs of production. The vastly improved methods of diaphragm manufacture are interesting examples of this.

Hand work has long implied superior quality. Its natural irregularities add interest pleasing to the eye, but they are of no value when interchangeability is the prime requisite.

Meter Diaphragms

Diaphragms should act uniformly, barring accidents of service deformity, and hence they must be made with as much sameness as possible. The more machinery plays a part in their production the more even will be the result. If the machine part of the process is not right, or is not carefully watched, the product will, of course, turn out uniformly bad.

Too much stress cannot be laid on the diaphragm. While often referred to as the lungs of the meter, it is in reality the very heart of the whole mechanism and for reasons that are outstandingly clear it begs harder for uniformity in gas production than any other part of the meter. It is the weakest link in the chain. Corrosion of plates and clogged valves rarely demand attention until after the diaphragm has been damaged. The average meter should outlast certainly three sets of them.

Diaphragmless Meter

I doubt if any meterman would not privately confess to the dream of a meter without a diaphragm. In my mind's eye I have often glimpsed something no bigger than a steam gauge or an aneroid barometer which would faithfully record each passing cubic foot. Something that did not click like a turnstile or sing like an asthmatic cricket, that was as sturdy as an iron meter and as easily handled as a tin-case, and I blush to admit the many hours I have spent in chasing these intriguing moonbeams. Someone will find it some day and he will have earned his reward.

The American market is notoriously sensitive in its quick preferences and no less prompt refusals of types of mechandise. This I like to believe is due to national rapidity in thought and action, rather than to a vacillating inconsistency with which we are sometimes charged.

If a type of merchandise finds lodgment in the other markets of the world, it seems to persist as a matter of precedent and habit of thought.

The Prepayment Meter

The prepayment meter, generally speaking, is still in vogue today in England, where it seems popular with the consumer and useful to the companies.

Shortly after its introduction in the United States it was taken up with a tremendous rush. Orders increased by leaps and bounds. I know of one meter factory which finally reached a production of 5,000 prepayment mechanisms a week and the demand kept about level for some 16 years before the saturation point was reached.

Whatever may be laid against the prepayment meter, we must admit it broke trail for many a gas company, in educating reluctant customers to try out the new fuel, by dispelling the fear of the monthly bill and letting the housewife itemize the account in advance as she went along.

We cannot ascribe disuse of the prepayment meter to any one general cause except that it did not fit in

with local conditions and the psychology of that particular community.

The added mechanism in the prepayment meter bears out the principle of the giraffe and the sore throat, yet in communities clinging to the prepayment meter there has never been any noticeable complaint of this extra machinery being the last straw.

Robbery Danger

The robbery danger was generally the crux of the matter and where it was chronic or severely epidemic and the full force of the law could not be invoked either for lack of authority, political reasons, or as a matter of policy, the prepayment meter began to slip. We have by no means passed this dangerous point, however. It is bothering many companies today in the form of wires under the valves and meters completely by-passed. The evil must be held up till it becomes a matter of public conscience. Avoidance of the issue will not avail. It must be corrected as theft in any of its other definitions is corrected.

It affronts one to be told he lives and does business in a dishonest community and yet it may be but the simple truth when viewed from this angle.

I do not believe the typical American temperament will bother much with small economies gained by even relatively slight effort. The trend of the advertising we meet certainly shouts for ease and convenience, belittling the cost.

Finally, when the gas companies' customers began to pay their bills by check, the prepayment meter took a back seat. It will always fill a certain demand.

Care of Meter

No discussion of the gas meter should omit a word on its care. All of the meters in any system should be brought into the repair shop and examined at least every six years. This may not disclose a serious condition in many of the meters handled, but careful adherence to some plan of periodic change has helped to cut down unaccounted for gas.

Records of a convenient and fairly simple character should be carried current in both the repair shop and general office. So many excellent systems of this kind have been developed so nearly approximating each other that the matter is perhaps now common knowledge.

The gas meter has challenged and gripped the men who have lived with it and there has resulted what might be termed two schools of thought among manufacturers, one emphasizing slow motion at normal operation and the other capacity in terms of space dimensions.

Each has been molded by the preference of the gas companies served who, in turn, have reached their conclusions only after conscientious study of their own experience and practice.

There are indications amounting to a budding promise that these two excellent qualities may not only be harmonized, but combined. The matter is in the lap of the high gods and will ultimately be wisely concluded by the unwavering economic demand for greatest usefulness at least expense.

The scheme of our modern living is not merely content to permit the fittest to survive. It goes further than this in requiring that the fittest must possess those elements of value found in the less fit.

A Sales Quota*

A discussion of this important plan of increasing appliances

William Gould

IN bringing up a question of Sales Quotas for the commercial departments of the gas industry, it does not seem possible that the American Gas Association or any of its members would hesitate to adopt it, if they did give it serious consideration and study.

Our Commercial Section, through the wonderful work done and being done by the Sales Stimulation Committee, is striving to bring about a 50 per cent increase in gas output in the next three years, and it is to stimulate and help to win this object that I am again offering for your consideration a Sales Quota.

Additional sales and the use of gas appliances make for additional output.

Accordingly, as our object is to increase output, larger sales in appliances become imperative. How can this be shown and accomplished?

Source of Increased Output

Some of the increased output we are aiming for can come, of course, from increased use of appliances now on our mains, as has been done and is being done in a great many companies throughout the country. Yet I believe the larger proportion of this sought-for 50 per cent increase in output will come

*Read at the Wednesday Meeting of the Commercial Section, A. G. A. Convention, Atlantic City, October 14, 1925.

from appliances that are not on our mains now. So if you gentlemen will consider this Sales Quota as an additional help toward reaching the goal of a 50 per cent increased output and in no way a duplicate of effort.

I doubt very much whether we all fully appreciate how much we are on a quota or a budget at the present time.

Our value as commercial men depends entirely on the results we secure for our companies, and to increase our individual incomes, we must increase the sales results of our departments.

Our salaries are guaranteed to us, and we would hardly consider a proposition that put our salary on a basis such as "the best we can give you," or "wait and see."

Yet, without a Sales Quota, this is exactly what many of the gas company sales forces are telling their superiors—"we will do our best in sales results—wait and see."

Knowing the Market

Modern sales departments in all industries first find out what their companies need and then set their goals and quotas accordingly.

Gas company sales departments in numerous cases try to fit in their sales results with their company's needs, and it is a very trying proposition to put over—in fact not worth trying, as alibis and excuses are weak men's crutches.

Of course, let us consider our past performances, in making up a Sales Quota for next year, and not set it at an impossible high mark, but also let us consider what appliances would best fit our companies' and our customers' needs, and fearlessly set a figure for each appliance and then go to it.

Men striving to reach Sales Quotas and failing are of more value to a gas company than those who never know what they are striving for.

Commercial Department Recognition

Commercial departments need not fear for proper recognition, if they will use modern business methods used by all other departments, and set their own standards, based on no hit and miss methods nor catch as catch can plans.

I must necessarily repeat, as I have many times before, that all departments of the gas industry have standards and quotas which they are striving to reach, all departments, gentlemen, but the sales department.

We want to make a good showing. We want to get certain good results and yet we as an industry have not decided and approved of the good results we should obtain in the sales department.

It is pretty nearly the same as if we all decided to attend the gas convention this fall, but had not made up our minds where it would be held.

On the other hand, we started out definitely to reach Atlantic City for this purpose and did not question whether that was the correct destination or whether it would be good enough under the circumstances.

We who came from New England would be foolish to have considered that under the circumstances Philadelphia would be near enough to Atlantic City to stop off to attend the convention and others of us did not consider on our way down here that New York might be good enough to stop off for the convention meeting.

No, we all were definitely informed by the action of the American Gas Association Executive Committee, that the proper destination for us to reach to attend the convention was Atlantic City, and we started with that definite destination in our minds, and from the last reports of attendance, I guess all of us reached that destination.

A Parallel Case with Sales Quota

Why isn't this a parallel case with Sales Quota idea? In contemplating our sales activities for the coming year, we should have a definite destination to reach and that ultimate goal should be governed by marks of progress to that point, not waiting until the end of the year and then find out too late where we stand, but rather each month checking the mile posts toward our destination or Sales Quota.

Again, if we from New England look out of our train on our way to Atlantic City and see a station, we can tell by that how far we are from Atlantic City. In arriving at New York we, from Boston, know we are two-thirds of the way. At Philadelphia we know we are still nearer and, consequently, I believe that by keeping track of the mile posts month by month in striving to reach our Sales Quota, we tance we have yet to go, than we can by starting out blindly to do the best we can.

Sales Quotas in New England

The three associations of New England, namely, the New England Association of Gas Engineers, the Gas Sales Association of New England and the New England Commercial Managers' Association, have definitely adopted a Sales Quota for ranges and tank water heaters.

In some of our companies we have been using these Sales Quotas with immense profit and help for three or four years.

If it is true that they have been of definite help to those companies in increasing sales of gas ranges and tank water heaters, why is it not possible that a Sales Quota for each and every gas appliance would increase sales for all gas companies using them?

In suggesting that the Commercial Section of the American Gas Association adopt a Sales Quota for each appliance, I am not offering it as an experiment, but as a tried and helpful means that has obtained good results wherever and whenever used.

Results to Be Obtained

My own personal opinion is, that it not only helps gas companies in increasing their sales and in rais-

ing their standards of selling, but that it can put into the hands of the manufacturers of appliances definite information that will increase their helpful co-operation to the gas companies, both striving for one common goal.

It will, in my estimation, take away one great fear of gas company commercial men, namely, that of being overloaded or overstocked, and it will also help the appliance manufacturer as an urge to the gas company to buy enough appliances to take care of the quota they are out to reach.

Past experience has shown us that many gas companies buy too many appliances and are thus overstocked and necessarily rightly criticized, but also many companies do not buy enough during the year, and we cannot sell appliances unless we have them first in stock.

Both these situations are brought about by not having any definite Sales Quota, and consequently buying as well as selling is done on a hit or miss plan.

Set a Sales Quota and you may buy and sell appliances without fear of any criticism.

Sales Quotas not only tell you where you should go, but how you are progressing all through the year.

Of course, be it understood, that a Sales Quota on any appliance is not one that will reduce sales results, but will be a goal to reach at beyond that which has heretofore been accomplished.

Dollar Sales Per Meter

Three years ago there was a prize contest for Dollar Sales per Meter and a great deal of interest was shown and a great many interesting facts derived from this contest. It was a start, gentlemen, toward fixing some definite goal in the minds of the sales department executives and served its purpose, but I repeat, it was a step toward the proposed Sales Quota I am now offering and urging on you.

The number of dollars in gas appliance sales can be in a way a guide toward what that department is doing, but it may consist of high-priced small consumption appliances, or it may consist of appliances easier sold or those that have been accomplished along the lines of least resistance.

Each gas company has its definite needs as to the type of appliance that should be sold or put on its mains and, of course, should govern itself accordingly, but a dollar's total sales will not give in detail this information.

Again, if we set a definite Sales Quota for ranges and each individual appliance, we may then best take care of our individual needs in a definite systematic plan rather than the hit or miss means of the Dollars per Meter plan.

Difference in Company Conditions

I have had the argument put to me, that each company is different. That one company may find it easier to sell ranges than water heaters, or vice versa, or that some companies have new territories that are being opened up and, consequently, will for the time being show increased sales that no quota would have helped. There are many reasons why the Sales Quota may not be good, but the reasons that it is a help to increase sales far outnumber the negatives. Let's have some definite goal to reach and let's arrive at those figures in a logical business-like, up-to-date fashion.

For a starter, we in New England, took for the smaller companies for ranges a basis of 5 per cent of their total meters in range sales, that is, a company with 5,000 meters should strive to sell 250 ranges during the year. For these smaller companies we took 4 per cent as a basis for the selling of tank water heaters, thereby meaning that the company with 5,000 meters would strive to sell 200 tank water heaters during the year.

Regarding automatic water heaters of the instantaneous and storage types, we did not set a quota because they did not sell 1 per cent of their meters in these, and we were ashamed to print these results.

Regarding radiant fires or gas steam radiators, we found a little better percentage than one and we are hoping some time to co-operate with the heater manufacturers in arriving at a Sales Quota of two or three per cent per year.

Conclusion

We, therefore, wish to bring up for discussion this subject with the hope that a Sales Quota will be adopted by the Commercial Section for the coming year and are offering as reasons for its adoption:

1. That it will stimulate and abet the Sales Stimulation Committee's efforts.
2. That a Sales Quota has increased sales wherever used.
3. That a standard or quota is being used in every other department of the gas industry.
4. That it is constructive and progressive in its ideas and results.
5. That while it is not a panacea for all sales troubles, it is a sensible and logical up-to-date means of planning one's work with the hit and miss eradicated.

I trust that some action will be taken by the Commercial Section, and I welcome, at this time, any discussion or questions.

A Holiday Window Display of the Public Service Electric & Gas Co., of Newark, N. J.

Bituminous Coal for Generator Fuel*

Some experiences with the pier process

Herbert H. Ferris

General Superintendent of Manufacturing, Gas Dept., Public Service Electric & Gas Co., Newark, N. J.

THE ever-rising cost of the labor and materials which we have been using in our production of carburetted water gas gives a difficult problem for the operating organization. If the gas industry had not made rapid strides in the last few years in developing and improving the efficiencies of our manufacturing processes, the increased cost of our product would have been a dangerous handicap to the industry. I believe, also, that our operating engineers have made considerable progress in applying engineering knowledge and technical skill to their problems. These developments and our better engineering skill have made it possible to hold down, or even lower, our production costs, in spite of these higher costs of materials and labor.

Up to recently it has been our custom to consider bituminous coal as suitable only for steam generation and the production of coal gas, while it was thought necessary to have good coke or large size anthracite for use in our water gas generators. Anthracite coal is fast approaching the high standing of his brother, "the white diamond," and if the differences of opinions between the anthracite operators and miners continue the "black diamond" in your coal bin may become as interesting to the hold-up man or burglar as the real diamond. Our coke prices probably will tend to follow along with the anthracite prices.

Cost of Coal a Factor

The only reason we are actively interested in bituminous coal for generator fuel is the much lower cost of this coal. However, during the war period, many of the Middle West gas companies were forced to use bituminous coal, mined in that section, as they could not get any other fuel. The gas industry is greatly indebted to these pioneers, especially W. J. Murdock of Joliet. They carried on this early development work and went through troubles which must have been a close approach to a gas man's "Hell."

As a result of their work, this bituminous coal operation has now developed so that it can be used successfully in a mixture with coke or coal up to about 60 per cent of large lump coal selected for its particularly hard structure, or we can go up to 100 per cent by using the Pier process, developed at Joliet.

Straight Soft Coal Operation

In small generators 100 per cent soft coal operation has been successful for several years, but when tried in generators of larger diameter all sorts of difficulties developed with the fire conditions. The capacity was very low and the fuel high. Clinker built up on the side walls with a very thin formation in the center. The center of the fire matted, or fused together, in solid mass, while the sides burned rapidly and formed blow holes along the walls, showing that the activity of the fire was entirely on the outside, while the center remained uncarbonized and inactive. As soon as the blow holes developed, great quantities of fuel carried over into the carburetter and super-heater quickly blocking them up. It was found that a refractory pier in the center of the fire gave a carbonizing effect in the center similar to that on the outside of the generator next to the hot refractory generator lining. This tends to form a fire which is uniformly active in its entire area.

The clinker formation now flattens out over the entire fire bed like the usual coke clinker. This process is controlled by the U. G. I. Contracting Company.

Coals Used

Many coals have been tried out, but the most successful results have come with the coals of hard structure which reach the fire in large lumps free from fines or small lumps. Such a coal is now prepared by several mines, but they are all high volatile coals. The blow run at the end of the blow is an essential feature of the operation which puts into the holder some of the volatile coal gas products in a gas of about 135 B.t.u.'s. The gas made in the generator apparently averages about 265 B.t.u.'s, which is lower than the usual blue gas. This should be taken into consideration in calculating our oil efficiencies.

Our water gas generator now becomes a hybrid actually doing some of the work of a producer and a coal gas retort. Like our familiar mule, this hybrid has its own temperament and peculiarities.

With the latest modern water gas equipment, such as automatic gas makers, steam and air meters, waste heat boilers, pyrometers and the backrun, or the Chrisman downrun, the operation of a water gas set has come under accurate, easily adjusted control, eliminating the personal continuous attention and the "rough and ready methods" which we had to use before these developments. However, with this bituminous fuel, the operating man's troubles may be about as numerous as they were in the old days and trained men are necessary for continuous supervision and adjustment of the operating conditions, especially if we use the 100 per cent process.

(Continued on page 122)

*Paper read before the New Jersey Gas Association meeting, Camden, N. J., January 22, 1926.

As The Journal Views It

QUALITY MERCHANDISE

In a recent issue of the American Gas Journal, attention was called to a condition which exists in many cities and which has perhaps escaped the attention of most commercial men and commercial managers. This is the fact, that there is at times a tendency to emphasize the price of a gas appliance rather than its quality. In other words, very often we find plumbers, and other dealers, who handle gas appliances, selling ranges and other gas using devices at prices which are ridiculously low. On further examination, it will also be found that the quality of such appliances corresponds with their prices. Then again, it must be said that the gas companies themselves are not altogether free from such practice. It was interesting to note a comparison made between the cost of a bottle of perfume and that of a gas range as advertised by one of the largest department stores in the East. In fact, the perfume cost more than the gas range and while, of course, the perfume performs a service in giving pleasure to the user, nevertheless, even the most prejudiced will not argue that the perfume has a greater utility than the gas range.

It is unquestionably a strange condition and it is a condition that is not limited altogether to the gas field. We find often that comparatively unimportant merchandise will sell for a greater price than articles of very definite utility. This condition is due, in part, to the emphasis that is often laid on the question of price by salesmen and sales managers who are desirous of getting rid of large quantities of merchandise. There is unquestionably a feeling that it is easier to sell a cheap article than an expensive one and under certain conditions this may well be true, but the true salesman, the one who has an insight into human psychology, knows well that when an article is too cheap, even though its quality be satisfactory, he meets with sales resistance which it is almost impossible to overcome.

As far as the gas range is concerned, except under unusual conditions, it is far better that the gas company and the gas salesman sell the best quality of range available, without going into great consideration of the price. The gas range is, after all, a quality article, rather than a price article. It is not at all difficult, as it might appear, to sell the home manager a gas range which is equipped with all the latest improvements and devices for securing economy of gas combustion and convenience and comfort in cooking. For she is interested in getting an efficient apparatus, one that has a pleasing appearance, and that will do her work well. The question of price comes later.

It may be said, in fact, that the entire gas proposition is one of quality rather than of price. This applies to the use of gas in industry and house heating, as well as in the home, and also to the various gas consuming devices that are used in these fields. Gas is an expensive fuel, but it possesses so many other advantageous characteristics that the question of mere expense is relegated to the background. The same applies to the appliances in which gas is used.

The gas men must, therefore, learn to sell quality appliances and emphasize the value of the service rendered by gaseous fuel and to leave the question of price alone. If advances are made in the proper way along these lines and the prospective customer is convinced of the advantages of gaseous fuel, it will generally be found that the matter of price will take care of itself. It should be borne in mind that we have before us an example of another industry which has obtained business in fields rightly belonging to gas, in spite of the fact that the costs involved were excessive. We refer to the electric industry that has sold quality appliances for various purposes, in spite of the high cost of the fuel and of the electric heating devices.

The important factor, after all, is the service the appliance can render and that the industry that sells the appliance can give to its user. The American public has learned to expect service and to pay for the service that they receive. The average American does not hesitate to pay a good price for an article, provided he feels that it will give him effective service. He often views with suspicion low-priced merchandise, feeling that the low price connotes poor

quality. It has often been the experience of salesmen to find that they cannot sell a low-priced article as readily as a higher-priced one, because of this peculiar sales resistance.

It is, therefore, essential for the gas industry to concentrate on quality merchandise that will give best service with the expensive gaseous fuel. In the long run, such salesmanship will give the best results.

A Folding Stove

An innovation in the gas range

J. F. Hardecker

YOU use your gas stove but three times a day. Haven't you ever begrudged the space that your stove took up when it wasn't in use? Haven't you often wished you could turn it into a convenient table or remove it altogether? The illustration shows just such a kind of stove.

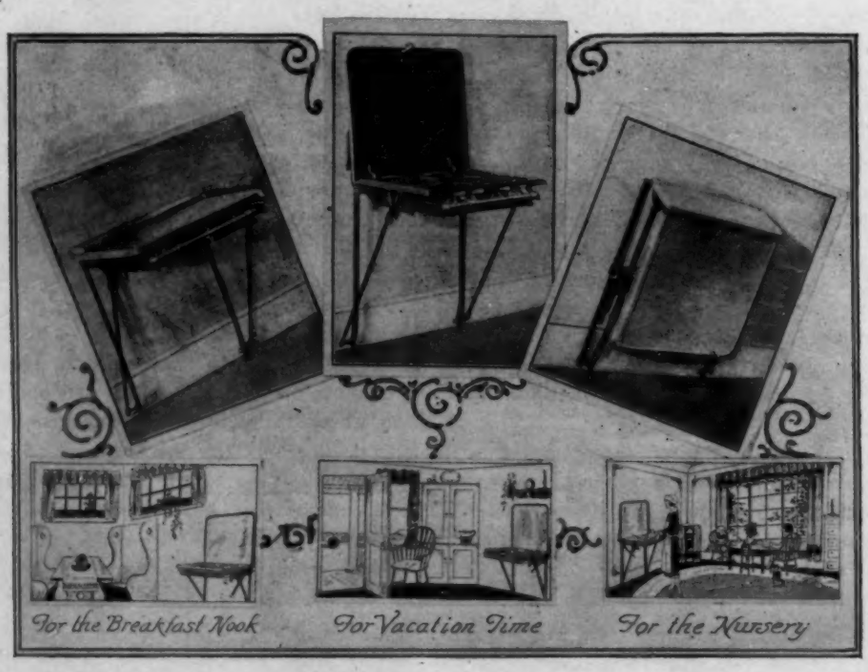
The cooking top of the stove, with its four burners, is large enough to hold conveniently a small separate oven for baking purposes. Under the burners is a deep enameled drawer which can be removed to clean and also serves as a most convenient receptacle for scalding dishes.

Enameled Top

The enameled top is used to cover the stove when folded away, keeping dust and dirt from collecting in the burners, gumming and clogging them. When the stove is in use, the cover supplies a necessary easily-cleaned splasher. It also folds down over the stove, making a smooth table top, and protects the gas cocks in such a way that they cannot be reached by children or accidentally turned on.

Folding Features Unique

The unique feature of the stove is the fact that it may be folded against the wall. When "put away," it extends from the wall only seven inches and is completely covered by the enameled top cover. In new houses it can be installed so as to be flush with the wall when folded down. An automatic valve, in axial alignment with the bearings of the stove, automatically shuts off the gas from the range cocks when the stove is lowered, entirely removing any danger of their being accidentally turned on.



This stove is suitable, not only for kitchens or kichenettes, but, installed on the upper floors, it is invaluable for preparing children's meals, heating water at night and countless other uses.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 106

Combustion

Combustible Elements and Compounds

It has been mentioned that there are in general three elements which may be considered as the combustible elements. These elements, particularly carbon and hydrogen, also unite with each to give compounds which are also combustible. Furthermore, it is also possible to find in nature substances which contain oxygen as well as hydrogen and carbon and that are also combustible. Thus wood is a substance of this nature and so is paper.

It will be valuable to review the characteristics of fuels in general before going further into the chemical principles that underlie the utilization of the heat that is contained in them in the form of potential energy. There are two ways in which the fuels may be classified. First, they are either natural or manufactured, and second, they are either solid, liquid or gaseous. The natural solid fuels are wood, peat, lignites, bituminous and anthracite coal and the various coals that lie between the latter three great classes. On the other hand, the manufactured solid fuels are charcoal, coke and briquetted fuels which are made by combining powdered coal, for example, with a tarry matter which holds the particles together to form a mass which can then be pressed into the form of bricks.

Liquid Fuels

The natural liquid fuel is just one, crude mineral oil. The manufactured liquid fuels are more numerous. Alcohol, mineral oil, distillates and residues, oil, gasoline, kerosene, coal tar and oil tar are all manufactured liquid fuels. Finally, there is just one natural gaseous fuel, natural gas, while there are quite a few manufactured gaseous fuels, such as coal gas, coke oven gas, water gas, carburetted water gas, mixed gas, producer gas, blast furnace gas, oil gas and oil and alcohol vapors.

In general, an artificial fuel is made from the natural fuel by heating or roasting of the solid natural fuels. Thus gas and coke are obtained in the heating of coal. A second method is to distill the natural fuel, as in the distillation of petroleum in order to obtain gasoline, fuel oil and the like. The third process is a chemical process which involves a reaction between the natural fuel and steam, such as the one that takes place in the manufacture of water gas.

The Natural Solid Fuels

All solid fuels are of vegetable origin. Coal is a form of a solid fuel which is derived from vegetable matter decomposed in the absence of enough air to cause complete combustion of the combustible. The process took place under pressure so that a compact mass of carbon was obtained while the volatile matters have been evolved to a greater or lesser degree during the course of formation of the coal. Various degrees of decomposition and various local conditions which existed during the process have given rise to the numerous types of coal and semi-coals that are commonly used in industry and the home today.

The solid fuels of natural origin may be classed in three different ways, according to their properties, determined either by physical or chemical methods.

THE COALS
The Age of Coal Determines its Properties
Coal is derived from Vegetable matter as shown by fossils (ferns, etc.,) found embedded in pieces of the fuel.
Hard Coal, (Anthracite) is the oldest form,—
while Soft Coal, (Bituminous,) is a more recent form.
Lignite is the youngest variety of Coal.

Thus a common way is to name the fuel, calling it bituminous, anthracite or lignite, long flame or short flame, coking or non-coking, pea, nut, buckwheat or rice, according to size. Many coals are also called by the name of the mine from which they are derived. These names fix the character of the coal in the coal man's mind and designate one from the other in a clear fashion.

BITUMINOUS COAL FOR GENERATOR FUEL

(Continued from page 118)

Testing the Pier Process

During the first half of 1925 we gave considerable study to the work being done and the progress made with this fuel. We decided to try out the Pier process at one works, and the mixture method at another, before deciding definitely which method to use in our other works. One of the well prepared Pennsylvania 3x6 inch lump coals with about 5 per cent ash, which was in successful use at a number of works, was selected for the test period, and at our West End works, in Jersey City, we have been operating four 11 ft. U. G. I. sets on a 50 per cent mixture for several months with only a few minor changes in the equipment, which will be described later. These sets operate with one or more additional sets using straight coke.

The generator fuel per M. came down from an average of 28.7 lbs. for the month of October, using all coke, to 27.59 lbs. for December, when 30 per cent of all the fuel used was this lump bituminous coal. This reduction of over 1 lb. per M. was something of a surprise and showed there were great possibilities in this generator fuel. The four sets with soft coal were apparently using about 26.5 lbs. The capacities were not reduced and the oil efficiencies were not materially changed. We found the capacity could be increased about 20 per cent by increasing the blow run, but with a loss in oil efficiencies and an increase in the gravity of the gas, but lower generator fuel.

Results at Paterson Works

At our Paterson works we are using the Pier Process, with 100 per cent bituminous coal in one 11 ft. U. G. I. set. This process offers greater possibilities in reducing the cost of our generator fuel, but our experience so far indicates that there are many more troubles with this method. As this set at Paterson is operated with two other 11 ft. sets using coke, it is not possible to give anything but estimated results for the coal used, excepting short periods of a few hours when we have been able to operate it alone. We believe it is now running on about 26.5 lbs. of coal, with some slight increase in the amount of oil used per M. Apparently we can expect a capacity of about 2,500 M. per day, if we maintain normal oil efficiencies. It has made about 3,000 M. per day, but with an increase in the oil of about .4 of a gallon per M., and quite an increase in the gravity of the gas.

At first we had a great deal of trouble at Paterson with blow holes in the fire, apparently due to a surge in the blast pressure when another set shut off the blast. At both Paterson and at West End in Jersey City we have found it necessary to provide some pressure relief system to eliminate the heavy pressure surges from the positive blowers. This is a problem which we are still working on, with the hopes of eliminating this trouble, which seems to be a very serious one for bituminous coal. The tar emulsions are one of the troubles of the 100 per cent method, which is still with us.

We expected the smoke nuisance would be hard to control, but found that the volatile products can be burned in the waste heat boilers during the blow. The only serious smoke comes during the coaling period, but I do not believe this is bad enough to cause complaints.

Changes in Equipment

We made the following changes in the equipment on our sets to take care of this fuel:

The generator blast valve and the safety valve on the blast main now open and close together.

A hydraulically operated steam valve was installed in series with the present steam valve to operate with the generator blast valve to prevent steam being on the generator during the blow run.

We provided a steam ejector in the backrun pipe to pull a down draft through the fire when coaling up.

A hydraulically operated tertiary air valve was installed on the super-heater, admitting the air about four courses of brick below the top of the superheater checkerbrick.

The settings of the automatics were adjusted to permit the blow run and the air purge.

Regular clinkering doors were put on at the bottoms of the carburetters and super-heaters to permit quick cleaning out of the blown over fuel.

For the 100 per cent method, a 3 ft. diameter pier was built up in the center of the generator by the U. G. I. Contracting Company.

Conclusion

We feel that this preliminary work has been quite successful and propose to use bituminous fuel quite largely in our works in the future. Additional piers for 100 bituminous fuel operation will probably be installed at Paterson in order to get a more definite comparison of the two methods, but probably the 50 to 60 per cent mixture will be used in our other works until we have had more experience with the Pier process.

We expect to get as good and possibly higher efficiencies with a much cheaper fuel, and hope to hold about the present capacity and oil efficiency.

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

CONCRETE GAS PURIFIERS

A GAS company in England has been using reinforced concrete for the construction of tanks, reservoirs and also gas purifiers. It was found that, contrary to common opinion, it is possible to make these apparatus gas and air tight.

The purifiers were approximately 160 feet long by 40 feet wide by 6 feet deep and consist of four boxes each of 40 feet square. The main portion of the roof consists of steel lids, of which there were four over each box, each being 14 feet square. The remainder of the roof was made in the form of gangways. Dwarf columns were provided in each of the boxes and these, together with bricks built into the walls, provided the necessary support for the grids. The floor under the columns was thickened in accordance with usual practice and fillets were provided at various joints on the wall and floor. Small beams were inserted on the roof to support the crane release on which a five-ton crane ran to lift the lids when it was necessary to investigate the boxes. The lids themselves were made gas tight by means of a rubber joint.

OIL GAS IN EXTERNALLY-HEATED RETORTS

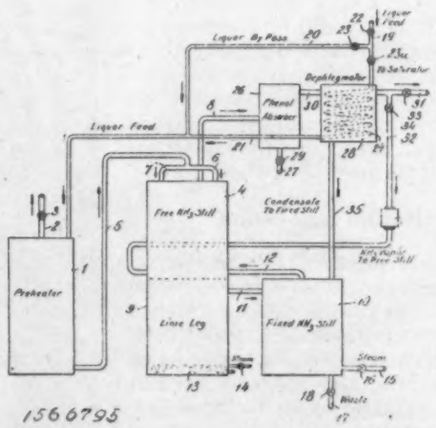
OIL gas is made, according to British Patent No. 242,029, for the enrichment of water gas in a vertical retort. The fuel, which may be coal or coke, is admitted to the top of a pair of vertical retorts, through which it passes downwards, and is distilled or preheated according to the nature of the fuel. In either case the product at the bottom of the retorts is coke, which passes directly into a pair of lower retorts surrounded by heating flues embedded in the walls. Producer gas is burned with preheated air in these flues and the waste gases are then used to raise and superheat steam. The steam is injected into the hot coke at a number of different levels, and the resulting water gas passes upwards through the upper retorts. The lower ends of the lower retorts are combined into a single chamber into which oil is injected for the formation of oil gas. The oil gas is immediately withdrawn into a conduit between the two retorts, and then passes into the upper retorts. The temperature in the flues surrounding the oil gas making chamber should be kept lower than in the remaining flues.

USE OF OXYGEN IN THE MANUFACTURE OF WATER GAS

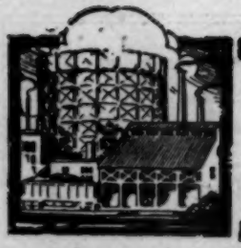
IF in the manufacture of water gas air was replaced by oxygen, the "blow" period being eliminated and gas-making made continuous, the thermal efficiency would be raised from 56 per cent (obtained at present with the use of a waste heat boiler) to 90 per cent. The price which the process could afford to pay for oxygen could thence be calculated. Trials were conducted in a small gas generator, 7 ft. high, using coke and oxygen and also coke, steam and oxygen, the necessary initial heating being effected with a gas jet. The results show that for satisfactory work the temperature should be maintained above 1000 degrees, the pressure should be low, and the rate of passage of the oxygen through the fuel bed slow. With the use of at least 3 mols. of oxygen to 1 mol. of steam, the reaction should be sufficiently exothermic to maintain itself, but this result was not reached with the experimental generator, perhaps on account of its small size. An exact regulation of the oxygen-steam ratio is very necessary, and optimum conditions must be maintained if the carbon dioxide content of the gas is to be kept below 10 per cent. In this method of working the ash will be fused and capable of being drawn off as slag.—(Ind. Eng. Chem., 1925, 17, 1123-1127).

TREATMENT OF GAS LIQUOR

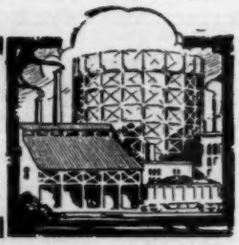
THE illustration shown below refers to a process which has been patented in the U. S. patent 1,566,795, and which has for its purpose the treatment of gas liquor, so as to recover from the liquors the phenols it contains, as well as its ammonia con-



tent. The process comprises of subjecting the liquor to a temperature of 98 degrees C., or higher, in the presence of sufficient ammonia to drive off the phenol as a phenolate. The salt obtained is ammonium phenolate.



NEWS OF THE GAS INDUSTRY



Own Your Home Shows to Have Many Industrial Exhibits

Shows planned for New York and Chicago in near future

The individual exhibit is receiving more attention than ever before in the plans now under way of many national interests for the coming annual "Own Your Home" exposition. The eighth annual New York show will be held two months earlier than in the past, from February 20 to 27, in the New Madison Square Garden, and the sixth annual Chicago show will open in the Coliseum on March 27 and continue until April 3.

In the old exposition days great effort was put forth to achieve general effects, such as delightful full size, furnished houses and scenic effects of finished homes. These elaborate displays were designed to awaken a desire for home ownership in the hearts of the visiting public which would eventually mean the sale of the materials, equipment and appliances found in these exhibits. In those days such displays served their purpose, but it is the consensus of opinion of the various experts behind the expositions that the public now desires more detailed information concerning the various items that enter into the construction and furnishing of their homes.

Not an Innovation

The individual exhibit, of course, is not an innovation. It flourished in the days of the fully furnished home. Then, however, these individual exhibits were more general in character and did not attempt the educational work to be undertaken at the coming expositions. The interests represented in both cities are now giving the public credit for the ability to understand the intricacies of construction directly affecting their pocketbooks. Moreover, these interests believe that the public wants to be initiated in the mysteries of what is going on behind the scenes of the finished house. Therefore, the exhibits at the coming expositions will teach the proper use of materials and equipment, furnishings and decorations and point out the folly of accepting flimsy, untried substitute products and incorrect furnishings.

The processes of home building are really very simple and an explanation of them will assure the prospective home owner that a "good" home can be obtained. An inspection of a finished home at such an exposition rarely fails to charm the visitors, but when it comes to entering into a transaction for homes of their own they often waver. Depreciation and upkeep are ugly words with which the public is familiar. Neighbors, relatives, friends have bought or built homes and recounted to them sad, sad experiences. It has been ascertained, by a survey of the visitors at the annual New York and Chicago expositions, that many people actually have the funds with which to secure a home and have feared to risk their precious savings.

So great was the demand for space for the 1926 shows that the exposition management last spring made arrangements to occupy the New Madison Square Garden in New York City, where the central hall has been especially designed for exhibit purposes; and engaged the mammoth new North Hall in the Coliseum in Chicago, making available thousands of square feet of additional floor space in both cities.

Both expositions are held under the auspices of the local real estate boards and under a code of ethics approved by the National Association of Real Estate Boards.

* * *

Southern California Gas Co. Gives Banquet

Carova, Calif.—The Southern California Gas Co. recently gave a banquet to those who have been in its employ five years or longer.

This is an annual event which is growing in importance in size as the years go by. Over 500 employees with their wives were present. In this group were practically every district manager and heads of departments in the company, showing how the company has been built up from among its own ranks.

One of the interesting features of the program was the giving of service pins and the pension certificates. Those who have been with the organization five years or longer are eligible to enlistment under the pension plan of the company, which provides a sure and carefully planned method for the retirement of employees. This plan also carries with it disability and insurance benefits.

* * *

Gas Schedules Approved

Albany, N. Y.—The Public Service Commission has approved the new schedule of the Municipal Gas Co. of Albany for gas service supplied in the cities of Albany and Watervliet, village of Green Island and town of Colonie, filed to become effective January 15, by special permission of the commission, providing a new classification of service for industrial purposes: Rate is block (per M. cu. ft.): First 25,000 cu. ft., $1.20; next 25,000 cu. ft., $1.10; next 50,000 cu. ft., $1; next 100,000 cu. ft., 90c; next 30,000 cu. ft., 80c; next 500,000 cu. ft., 70c; all over 1,000,000 cu. ft., 65c; minimum charge, 75c per month.

A new schedule of the Northern New York Utilities, Inc., for gas service supplied in the city of Wa-

tertown has been approved. Schedule effective February 1 provides block rate (per M. cu. ft.) as follows, for use of service for lighting, fuel and industrial use: First 25,000 cu. ft., $1.95; next 25,000 cu. ft., $1.85; next 25,000 cu. ft., $1.75; all over 75,000 cu. ft. per month, $1.70; minimum charge, 50c per month; present rate, $1.95 per M. cu. ft. When consumption in any month is 100,000 cu. ft. or more, a discount of 15c per M. cu. ft. is allowed.

Also a new schedule of Northern New York Utilities, Inc., for gas service supplied in city of Rome. Schedule filed to become effective February 1 changes the minimum charge per month for lighting, fuel and industrial service from 75c to 50c and the excess for delayed payment from 10c per M. cu. ft. to 5 per cent of the bill.

* * *

Plymouth Gas Light Co. Rate Changes Approved

Boston, Mass.—Department of Public Utilities exempted Plymouth Gas Light Co. from calorific standard of gas in this State, allowing it to reduce its calorific value of gas from 528 to 500 B.t.u., accompanied by a reduction in prices of gas from $2.75 per thousand cubic feet to $2.65.

The company requested it be allowed to try this new standard for a short period, believing the reduction in thermal units would result in a great saving to the company, which could be passed on to the consumer. For a number of years the company has earned little or nothing on its stock.

* * *

Economics in Public Utilities

Denver, Col.—The University of Colorado, at Boulder, has added a course, "The Economics of the Public Utility Industry," and to the end that it may be up to date, thoroughly practical, many public utility experts have been placed in the faculty, consulting engineers, as it were. We notice Guy Faller, C. A. Semrad, O. A. Weller, V. L. Board, J. E. Loiseau, F. R. Jamison, C. A. Harrison and J. J. Ryan, of the Public Service Company of Colorado, listed as members of the faculty. The course will be taught through correspondence to any one desirous.

Surface Combustion Co. Appoints L. B. Crossman District Manager

In line with its policy of closer co-operation with the gas companies in stimulating the sale of industrial gas and heating equipment throughout the country, the Surface Combustion Co. has recently appointed L. B. Crossman to the position of district manager of the New England territory, with offices in Boston, Mass.

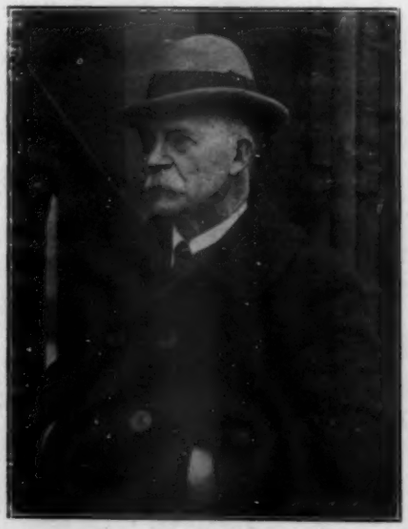
Mr. Crossman was formerly connected with the extensive interests of the Tenney Company as industrial fuel sales engineer, and more recently with the Bristol & Plainville Electric Co. He enters upon his new duties beginning February 1 particularly well qualified to handle the sale of industrial gas equipment in this section. The gas companies will no doubt appreciate the opening of a local office, which move was made by the Surface Combustion Co. with the idea that its activities would be more centralized and its service to the local companies expedited.

70 Years' Continuous Service Honored

J. O'Connell, Consolidated Gas Co. Employee, Given Dinner

At the end of three score and ten years of uninterrupted employment by the Consolidated Gas Co. of New York, John O'Connell, 87 years old, foreman at the large gas plant at 21st street and Avenue A, was the guest of honor at a dinner given by the officers of the Consolidated Gas Co. and its affiliated gas companies.

The dinner was held in the main dining room of the Consolidated Gas Co.'s building, 15th street and Irving place. There were about 200 diners, with Mr. George B. Cortelyou, president of the Consolidated Gas Co., presiding, and Mr. Cortelyou during the evening presented Mr. O'Connell with a suede bag containing many golden double eagles. The speakers at the dinner were George E. Woods, vice-president, and William Cullen Morris, chief engineer of the Consolidated Gas Co. Mr. O'Connell made his maiden public speech in reply to the previous speakers and during his speech Mr. O'Connell gave a word picture of New York City when the sportsmen "from the city" looked for their day's shooting in the neighborhood of Madison Square and when a journey to Harlem and what is now known as the Borough of the Bronx was looked upon as "an all-day trip."



John O'Connell

The music during the evening was furnished by the gas companies' quartet and the gas and electric band of 27 pieces. The dining room was elaborately decorated by the members of the companies' Woman's Service Club. Several of the diners were personal friends of Mr. O'Connell, who have been associated with him in the gas plant for many years.

Since John O'Connell entered the employ of the gas company 70 years ago he has seen 17 Presidents of the United States inducted into office, of whom three—Presi-

dents Lincoln, Garfield and McKinley—were assassinated. During the same period O'Connell has lived through the administrations of 27 Mayors of New York City.

Mr. O'Connell was born in Cork, Ireland, on January 6, 1839, and came to this country with his father and mother and three other children, landing in Philadelphia in 1852. In 1854 he came to New York and has remained in this city since that time. He entered the employ of the Consolidated Gas Co. in February, 1856. He has lived within a stone's throw of the East 21st street gas works of the Consolidated Gas Co. ever since he entered the employ of the company.

The following trustees of the Consolidated Gas Co. were invited to the dinner:

George F. Baker, Nicholas F. Brady, Louis M. Greer, Lewis B. Gawtry, John A. Garver, Donald G. Geddes, James N. Jarvis, John D. Ryan, Percy A. Rockefeller, Samuel Sloan and Moses Taylor.

Fitkin Interests Acquire Newport News Utility

New York City.—The Newport News & Hampton Railway, Gas & Electric Co. of Virginia, has been acquired by the Fitkin Utilities, Inc. According to A. E. Fitkin, president of the National Public Service Corporation, 80 per cent of the preferred and common stocks of the Newport News & Hampton Railway, Gas & Electric Co. has been acquired. The price paid for these stocks is understood to have been $110 a share.

Properties just taken over will be combined with Virginia-Western Power Co., Virginia-Northern Power Co. and other Virginia holdings of the Fitkin interests in a Virginia operating company which will be a subsidiary of the National Public Service Corporation.

Acquisition of the Newport News & Hampton Railway, Gas & Electric Co. will add to yearly gross revenues of National Public Service Corporation more than $2,000,000.

Gas Price Advanced Cent in Minneapolis

Minneapolis, Minn.—The price of gas to Minneapolis consumers has been advanced 1 cent by the Minneapolis Gas Light Co., making the price per 1,000 cubic feet 94 cents for the next four months. The rate for each period is governed by cost reports for a period just before.

* * *

C. D. Bell Wins First Prize

Redlands, Cal.—The first prize and cash award from the Natural Gas Association of America has just been made to C. D. Bell, of the Southern California Gas Co., for the best idea for facilitating the work in the natural gas industry. His ideas are embodied in three testing machines. The first of these tests all fittings before they are sent to be installed. Any defects in workmanship or material are discovered and the fitting is not used. By means of this, faulty workmanship and fittings containing small leaks are kept out of the lines.

The other two machines are for testing meters and regulators. These provide for a maximum of ease of operation, giving the operator ample opportunity to concentrate on the accuracy of the instruments being tested.

C. D. Bell, who is superintendent of distribution for the Southern California Gas Co., says that when he had these ideas he turned them over to F. A. Hamilton, in charge of the company's garage, and H. E. Ballard, who is general shop foreman. They worked out the details of these ideas and constructed the machines.

* * *

P. G. & E. Still Growing

San Francisco, Calif.—About $25,000,000 will be spent this year by the Pacific Gas & Electric Co. for enlargements and betterments. Six million will be assigned to the gas department. At Oakland a gas container of 10,000,000 cubic feet capacity and costing one million dollars will be built. The company's gas consumers reached 387,000 in 1925, a gain of 22,000. It spent $27,000,000 during 1925.

A. G. A. Commercial Section Arranges Architects' Contest

First Part of the Orange Star Campaign

The first step to put into action the Orange Star Campaign of the Commercial Section of the American Gas Association was taken on January 27, when contracts were signed for full page advertisements in the four leading trade papers of the architectural profession. These advertisements are to appear in the February issues of the magazines and will announce a prize competition for plans for a six-room suburban house. The competition is open to architects, draftsmen and students in architectural schools in the United States and Canada. It is an open competition conducted under the name of the American Gas Association and is also sanctioned by the American Institute of Architects. The competition will close on May 15. The prizes to be given are as follows:

First prize, $1,000; second prize, $500; third prize, $250; fourth prize, $250; fifth prize, $100; sixth prize, $100; seventh prize, $100; eighth prize, $100; ninth prize, $100. In addition to these prizes, five plans will be chosen for honorable mention.

The purpose of the competition as outlined by the Commercial Section is to get the co-operation of architects in the adequate provision of gas equipment in the home. This involves supplying suitably placed piping and flues, as well as gas consuming appliances. Incidentally, this competition will provide the section with residence plans that may be used among home owners, speculative builders and others. The plans can also be used by local gas companies for model and demonstration purposes.

William Adams Delano, of Delano & Aldrich, was the professional adviser in preparing the rules and conduct of the competition, so that it met with and conformed to the requirements of the American Institute of Architects.

Two architects and one gas man will judge the contest.

A. G. A. Institutes Operating Service Bureau

The American Gas Association has instituted an operating service bureau through the carbonization committee of the Technical Section. The association has the convention floor at its disposal but once a year and the opportunity of solving service problems there is very small, due to the fact that convention time has become too valuable. So far this operating service bureau has not been used by A. G. A. members to the extent that its potential value indicates it should have been.

A sub-committee of the carbonization committee has been appointed to handle this bureau. The committee is composed of men with wide experience in the operation of all types of plants and are, therefore, in position to give helpful information on all operating conditions. The committee intends to call on anyone whom they feel can help them in any problem.

The committee urges all members of the association who have some problem giving concern to refer it to this committee, which will endeavor to answer or find some one who can give the information desired. All communications will be held strictly confidential and no information will be given as to the source of any question.

The American Gas Association was organized to be of benefit to its members and this is one of the means of deriving this benefit. Let this committee share your troubles. Mail them to H. W. Hartman, secretary of the Technical Section, who will forward them to the committee.

Colon Gas Co. All Set Now to Lay Gas Line to France Field

Panama, R. P.—The Colon-Division of the Panama-Colon Gas Co. is making splendid progress in connection with the construction work which it is carrying out in the extension of its gas service to the Army and Navy stations on the Colon side.

Progress is reported in laying the ditch to receive the pipe line and an open trench now reaches from Colon to France Field, while work is being started in the direction of Fort Davis at the present time.

Because of the fact that the gas must be subjected to considerable pressure to overcome friction losses in such a length of time, an innovation in pipe lines, as far as the Isthmus is concerned, has been made by the gas company in that the pipe is to be welded together at all joints, thereby dispensing with the generally used threaded, leaded or bolted joint. This is to be the first entirely welded pipe line on the Isthmus and is but further evidence of the ever-increasing effort on the part of the gas company to adopt the most modern and efficient methods known to the industry.

Dallas Gas Company Plans Improvements

Dallas, Texas—An improvement program involving more than $800,000 will be instituted shortly by the Dallas Gas Company to care for all outlying suburbs recently developed and others that are contemplated.

The improvements will be mostly in the form of extensions to new territory and additional mains to sections already served, according to R. G. Soper, secretary of the company.

As the end of the present year approaches, Mr. Soper has prepared reports to show that gas connections have increased by 5,300 during the present year, bringing the total number of users, both commercial and domestic, to 55,311.

The amount of gas used by homes of Dallas during the eleven months of 1925, including November, totaled 2,394,785,000 feet, a slight increase over the mark of 2,369,891,000 feet of 1924 for the same period, while the total for all users, both homes and commercial, was some 7,572,554,000 feet, this latter mark including a twelve-month period ending November 30 of this year.

POWER COMPANIES MERGE

United Gas & Electric Joins With Empire Corporation

New York City.—Merger of the United Gas & Electric Corp. with the Empire Power Corp. has been announced through the Associated Press by E. L. Phillips, president of the latter company.

The Empire Power Corp. has already contracted for a substantial majority of the common stock of the United Gas & Electric Corp., exchanging for each share of the latter corporation's stock $63 cash or two shares of Series A participating Empire Power stock. Holders of the remaining outstanding United Gas stock will be made the same offer shortly.

The corporation controls the New York Central Electric Corp., the Empire Gas & Electric Co. and other power companies in central New York.

Gas Company Increases Discount

Citizens Gas Co. Officials to Give Heavy Users Benefit of Reduction

Indianapolis, Ind.—Formal notice of increased discounts to all customers of the Citizens Gas Co. on and after March 1 was filed with the Public Service Commission recently by Clarence L. Kirk, vice-president and general manager of the company.

The decision to increase and extend the discounts was approved by directors of the company on December 16 last but was not put into effect immediately because changes were necessary in billing machines on which gross and net amounts of all bills are computed.

Heretofore a 5-cent discount has applied on each 1,000 cubic feet up to 10,000 consumed in a month, but large consumers have not had

the advantage of any discount on quantities in excess of that amount. Now all consumers will get the benefit of a 10-cent discount on each 1,000 feet, regardless of quantity consumed, if the bill is paid within ten days.

The schedule of gross rates of the company follows: One dollar and fifteen cents a thousand for the first 50,000 feet; $1.10 for the next 50,000; $1.05 for the third 50,000; $1 for the fourth 50,000 and 95 cents a thousand for all in excess of 200,000 feet. Net rates, under the new announcement, will be 10 cents less than the gross rate in each step if payment is made within ten days of the date of billing.

The new discount clause of the company's rate schedule, as filed with the service commission, follows:

New London Makes Big Improvements

The Connecticut Power Co. is laying plans and making arrangements for improvements and betterments to the New London plant which will include additional manufacturing capacity, as well as boiler plant and auxiliary works apparatus.

A contract has been given to the U. G. I. Contracting Co. of Philadelphia, to install additional U. G. I. cone top carburetted water gas apparatus that will increase the daily capacity by approximately 3,000 M. cu. ft. This apparatus will have all of the latest improvements, which include hinged generator grates, complete hydraulic operation of valves controlled by the U. G. I. Model "B" automatic control. The set will also be equipped with automatic carburetter blast control, generator blast control and backrun connection.

A rather unusual feature of this installation will be the inclusion of a Smoot steam regenerator which will receive the exhaust from various steam using units and will make this exhaust steam available for use in the carburetted water gas apparatus, which apparatus will be specially equipped with exhaust steam piping and parts.

In order to provide adequate hydraulic pressure in the plant a complete pumping system will be installed in duplicate, including pumps, pressure tanks and other parts necessary for the system.

In order to provide the proper blowing plant, the contracting company will install two blower units, each having a capacity of 17,700 cu. ft. of air per minute at 42 in. static pressure. One unit will be driven by a 168 hp. steam turbine, the second unit will be driven by a 200 hp. electric motor. The blast main connecting these blowing units to the apparatus will be of the overhead type and constructed of welded steel.

Provision for the safety of blast main will be made by means of the U. G. I. safety damper, hydraulically operated, inserted in the main.

In addition to furnishing the water gas apparatus and its appurtenances, the U. G. I. Contracting Co. will also install two gas exhausters, each having a capacity to handle 150 M. cu. ft. of gas per hour.

Installed and connected to the carburetted water gas apparatus will be a U. G. I. vertical waste heat boiler. This boiler will receive the blast gases from the apparatus and will generate steam for the operation of the set.

Contracts Awarded

The Easton, Pa., Gas Works Co. finds it necessary to increase the manufacturing capacity of its plant and has, therefore, decided to install an 8 ft. U. G. I. cone top carburetted water gas apparatus. The contract has been awarded to the U. G. I. Contracting Co., Philadelphia, which will install this apparatus.

It will be equipped with full hydraulic operating mechanism and will give the Easton plant an added capacity of approximately 700,000 cu. ft. per day.

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The Carolina Service Co., of Kingston, N. C., has awarded a contract to the Western Gas Construction Co. for furnishing a 4 ft. 6 in. water gas set at Goldsboro, N. C., also a similar set at Fayetteville, N. C.

The American Electric Power Co. of Philadelphia has placed a contract with the Western Gas Construction Co. for the furnishing and erecting of two purifiers at the plant of the Lynchburg Traction & Light Co. of Lynchburg, Va.

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The Central Illinois Public Service Co. in Chicago has placed an order with the Western Gas Construction Co. to furnish and erect an additional lift to the 50,000 holder at Lincoln, Ill. It is planned to install this outer section without putting the holder out of commission.

Calumet Gas Proposes Name Change

Changing of the name of the Calumet Gas and Electric Company to Northern Indiana Public Service Company was proposed in a certificate amending the charter of the company recently presented to the Secretary of State at Indianapolis.

The Calumet Gas and Electric Company, which is one of the operating subsidiaries of the Midland Utilities Company, has grown rapidly during the last two years and has spread beyond the territory which it formerly served.

Two years ago the company served Crown Point and Lowell and a few rural communities and supplied electrical energy for the operation of the Gary Railway System. By the purchase of other properties extending across northern Indiana from the Illinois to the Ohio State line, the company has extended its service to 83 communities. The new name selected more accurately describes the territory now served by the company.

The company furnishes gas service in Elkhart, gas and electric service in Valparaiso and electric service in Crown Point, Knox, North Judson, Plymouth, Culver, LaGrange, Wolcottville, Angola, Waterloo and several smaller communities in 15 counties in northern Indiana. Gross business of the company is in excess of $1,000,000 annually.